To: Robinson, Derek J CIV NAVFAC HQ, BRAC PMO[derek.j.robinson1@navy.mil]; Franklin, William D CIV NAVFAC HQ, BRAC PMO[william.d.franklin@navy.mil]
Cc: Lane, Jackie[Lane.Jackie@epa.gov]; Bacey, Juanita@DTSC[Juanita.Bacey@dtsc.ca.gov]; zachary.edwards@navy.mil[zachary.edwards@navy.mil]; Janda, Danielle L CIV NAVFAC SW[danielle.janda@navy.mil]
From: LEE, LILY
Sent: Thur 3/17/2016 4:59:48 PM
Subject: Written answers to questions already received re rad release criteria & risk

Dear Derek & Bill,

It sounds like Bradley wants written answers to the questions Dan already sent. I'll take responsibility for the question about consistency with EPA methodology. In addition, I am resending for reference the email I sent last week about the question Nina already got. We discovered that Ms. Montelongo-Acosta is associated with the UCSC Nuclear Policy program. Finally, when you were out of the office a few weeks ago, I talked to Danielle about Table 7-3 below.

From: LEE, LILY
Sent: Thursday, March 10, 2016 3:38 PM
To: 'Robinson, Derek J CIV NAVFAC HQ, BRAC PMO' <derek.j.robinson1@navy.mil>
Subject: Background context for my call - Rad inquiry from member of the public

Dear Derek,

I will be calling you in a minute, but for background context, I wanted to send you the message below that Nina got from a member of the public (scroll down). I have been working on it with her.

In response to Nina's questions, to see if I could duplicate Ms. Montelongo-Acosta's I just did a simple mulitplication of

70 years X (5.43 mrem/yr) X (10^-3 rem/mrem) X (1.16 X 10^-3 excess cancer risk/rem) = 4.4 X 10^-4 excess cancer risk for lifetime

Currently USEPA assumes 26 years as the likely time people would live in a single home before they move to another home. And the current 8.46 X 10^-4 excess cancer/rem is what EPA uses, though EPA is considering adopting the NAS number cited below of 1.16 X 10^-3. That comes out to 1.2 x 10^-4 , which rounds down to 10 ^-4

The email below refers to a part of the ROD that describes actual risk before remediation. What we would evaluate is the residual risk after remediation. I checked the 2012 Rad RACR for Parcel B, which includes the bldgs. I found this below in the RACR.

Using the method from Ms. Montelonga-Acosta:

Residual dose 0.2596 mrem/y X 70 yrs X 1.16 E-3 = 21 E-6= 2.1 E-5, which is in the EPA risk range.

Using the EPA current practice of assuming 26 yrs exposure & 8.46 E-4, the risk would be 57 E-7 = 5.7 E-6.

Both of these are within the EPA risk range.

http://www.envirostor.dtsc.ca.gov/regulators/deliverable_documents/9856556534/Hunters%20Point_F

p. 89 of pdf, p. 4-11 of hard copy:

"RESRAD modeling was performed using the maximum Cs-137 concentration of 0.2043 pCi/g

obtained from the discharge pipes. (Separate modeling efforts were performed for the Discharge

Channel and are summarized in Section 4.4.2.) Modeling was performed using default

parameters and the discharge pipes were assumed to be completely filled with soil/sediment at

this activity concentration. The RESRAD modeling results indicated a residual dose of 0.2596

mrem/y with an excess lifetime cancer risk of 4.236×10^{-6}. These results fall within the

acceptable NCP risk management range of 10^{-6} to 10^{-4}, which supports radiological free release.

The modeling parameters and results were presented in Attachment 3 to the Technical

Memorandum (Appendix U).

4.3.4 Building 140 Regulatory Concurrence

The Draft Technical Memorandum was submitted to the regulatory agencies for review.

Comments to the Building 140 Technical Memorandum were provided by the EPA and DTSC in

June 2011 and responses were prepared. The Final Technical Memorandum (Appendix U)

incorporated the responses to comments submitted by the EPA and DTSC and was published on

July 20, 2011. The DTSC and CDPH subsequently concurred with the radiological release for

unrestricted use of Building 140 (Appendix R). According to previous statements by the EPA,

their decision for radiological free release of the Parcel B buildings/structure and former building

sites will be based on the data and analyses presented in this Radiological RACR.

From: Janice Montelongo-Acosta [mailto:janice.pma@gmail.com]
Sent: Thursday, January 28, 2016 5:17 PM
To: Bacey, Juanita@DTSC
Subject: Questions about Final Amended Parcel B Record of Decision for Hunters Point

Greetings, I hope this email finds you well.

I am a local Bay Area community member with an inquiry concerning the radiological risk and dose calculations presented on the amended ROD for Parcel B of Hunters Point. I will be using table 7-3 on page 105 of the document as a specific reference.

The issue is that there is no clear methodology of how the risk numbers on the table were obtained. Essentially, the calculations for radiological risk do not, on the surface, make sense. Let's say one were to use the numbers pushed forward by the National Academy of Sciences to calculate radiological risk ($1.16 * 10^{-3}$ risk/rem). For the total lifetime radiological risk for building 140, for example, the calculation would be $4.4 * 10^{-4}$ risk, which is hundreds of times bigger the $1.44 * 10^{-6}$ shown on the chart. This trend follows up with other impacted buildings.

The table notes include no additional information about how the numbers were calculated. Will it be possible for you to direct me to that information, or perhaps even direct me to someone who will be able to explain these calculations? It would be much appreciated.

Thank you for your time and consideration. I look forward to your reply.

TABLE 7-3: RADIOLOGICAL RISK RESULTS
Parcel B Amended Record of Decision, Hunters Point Shipyard, San Francisco, California

RESRAD-BUILD Results

Impacted Building	Radiological Risk[a,b]	Dose (millirem/year)
Building 103	1.48×10^{-6}	7.02
Building 113	1.48×10^{-6}	7.02
Building 113A	1.60×10^{-6}	1.45
Building 130	1.60×10^{-6}	1.45
Building 140	1.44×10^{-6}	5.43
Building 146	1.16×10^{-6}	1.20

Notes:

a Total risk and dose is equivalent to incremental risk and dose. Actual calculated dose and risk will be based on field measurements from the final status survey results. Incremental risk does not include risk from chemicals present at or below ambient levels; total risk includes risk from all chemical concentrations.

b Total excess lifetime cancer risk

--

Janice

Lily Lee

Cleanup Project Manager

Superfund Division

U.S. Environmental Protection Agency, Region 9

75 Hawthorne St. (SFD-8-3)

San Francisco, CA 94105

Tel: 415-947-4187, Fax: 415-947-3518

www.epa.gov/region9/superfund

From: Bradley Angel [mailto:bradley@greenaction.org]
Sent: Thursday, March 17, 2016 9:39 AM
To: LEE, LILY <LEE.LILY@EPA.GOV>; Daniel O Hirsch <dohirsch@ucsc.edu>

Subject: Re: Hunters Point technical meeting with Navy, DTSC, & EPA - timing & proposed agenda

Hi Lily,
The proposed days and times work for us, so hopefully the UCSC folks can do one of those. Also in your email you mention that the Navy offered to respond sooner in writing to specific questions, but they have had these questions...see below.

Bradley

On 3/17/2016 9:32 AM, LEE, LILY wrote:

> Dear Bradley,
>
> I'm glad I got to talk with you yesterday at the EJ Task Force meeting. As you requested, out of the 13 times I put in the survey, the Navy, DTSC, and EPA are available April 12 at 10 am or 11 am and April 13 at 9:30 am for a one-hour meeting or call. Below is a screenshot showing showing responses thus far to the 13 proposed times. Here's the link to the electronic version of the poll: http://doodle.com/poll/3zvyyh3wq8s3g276. Since no one single time slot is good for all poll respondents, I can propose more alternative times if you like.
>
> In addition, Derek Robinson (Navy) offered to respond sooner in writing to any specific questions that you would like to send in writing. EPA can do that as well. Derek also proposed a draft agenda below based on the general topics that Dan Hirsch provided below. From Derek Robinson (Navy):
>
> "From Mr. Hirsch's email, below is a suggested agenda that I am hoping you can send out for EPA and Greenaction's comment/concurrence. We need to pin this down so that my folks can set aside the time and prepare for topics. Until the agenda is set, a date has been selected, and my folks have responded back, I can only commit to endeavoring to get everyone to the meeting.
>
> 1. Derivation of remediation goals for radionuclides - 10 min

2. Risk estimates calculations - 10 min

3. Consistency with EPA methodology - 10 min

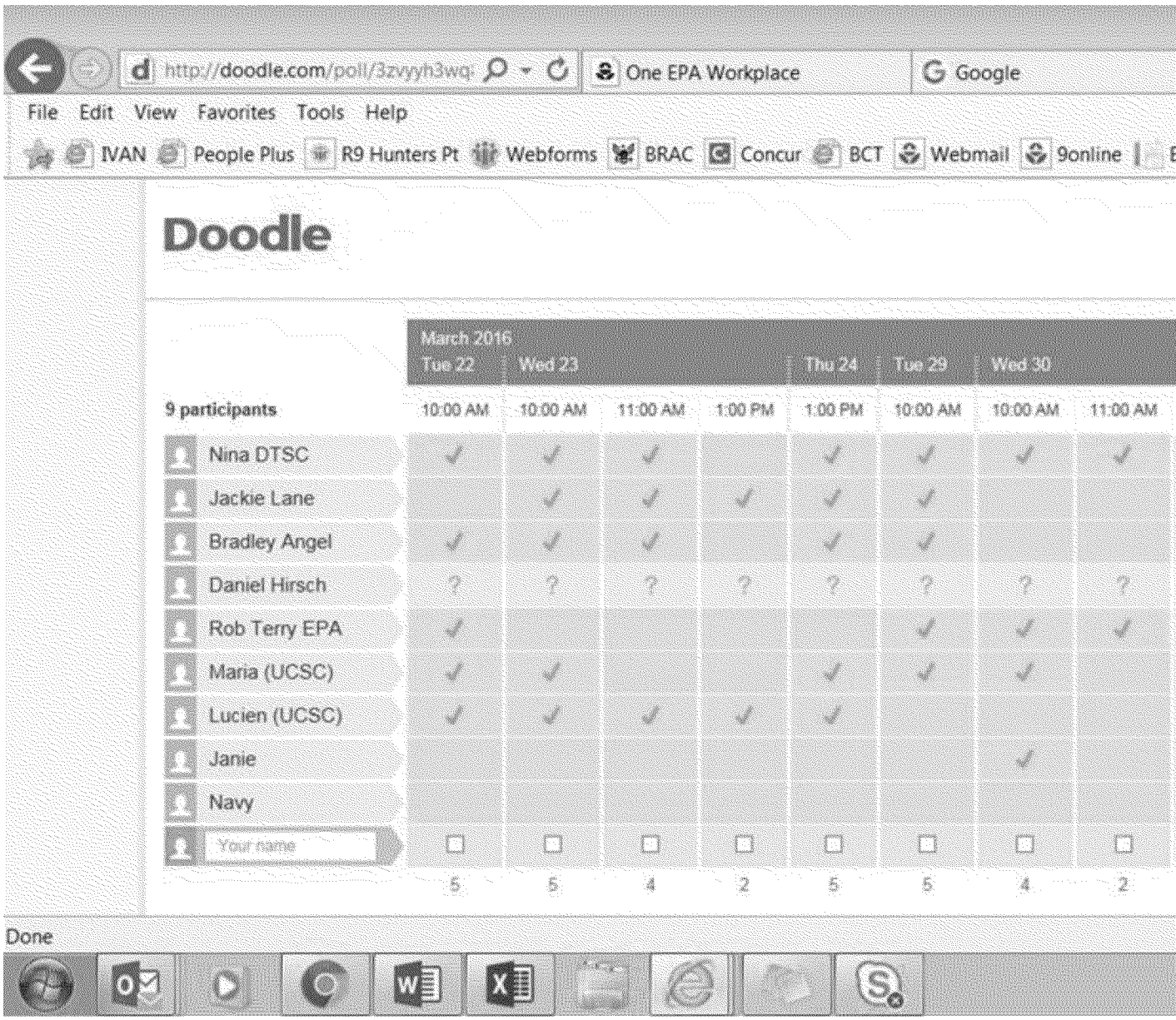
4. Disposal requirements - 10 min

4. CERCLA risk assessment process - 10 min

5. Misc. Topics - 15 min

6. Document availability - 5 min"

Please let me know how you would like to proceed.



From Dan Hirsch:

"Among the technical issues about which we have questions and for which it would be helpful to have your technical people available who can answer questions in those areas are:

1. How the remediation goals for radionuclides were derived.

2. How the risk estimates for specific estimated radiation doses were derived, and how those doses themselves were derived.

3. The standards that have been and are being used to declare materials to be or not be low-level radioactive waste and where these materials have been and are being sent for disposal or recycling.

4. Questions about pre- and post-remediation risk assessments for both chemicals and radionuclides.

5. Numerous questions about status of characterization, environmental impact review, and remediation for different portions of HPBV.

6. Availability of various key documents.

We have some general questions about the above subject areas, but also detailed specific technical questions"

Lily Lee

Cleanup Project Manager

Superfund Division

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